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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY  
3100 Port of Benton Blvd • Richland, WA 99352 • (509) 372-7950

April 11, 2006

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EDMC

Mr. Kevin Bazzell  
Richland Operations Office  
United States Department of Energy  
P.O. Box 550, MSIN: A3-04  
Richland, Washington 99354

Re: Backfill Concurrence Checklist for 116-N-1 Combined Crib and Trench (1301-N Trench)

Dear Mr. Bazzell:

The signed backfill concurrence checklist for the 116-N-1 Combined Crib and Trench is enclosed. After considering the factors listed below, the Department of Ecology agrees to the backfill. However, our agreement is contingent upon the United States Department of Energy's (USDOE) agreement to incorporate the requirement for a Focused Feasibility Study into the 1301-N chapter of the Hanford Facility Resource Conservation and Recovery Act Draft Permit (Site-Wide Permit). The permit modification is necessary to support completion of Hanford Federal Facility Agreement and Consent Order Milestone M-16-55, "Complete the interim response actions for the 100 N Area" (12/31/2012).

Factors:

1. The excavation of contaminated material from the 1301-N Trench was done in accordance with the Hanford Past Practice (HPP) Strategy, DOE/RL-91-40, Revision 0. The excavation and sampling of the Trench completes a step in DOE/RL-91-40, Figure 1, "Hanford Past Practice Strategy RI/FS (RFI/CMS) Process" (enclosed). That step is "Perform IRM; Concurrent Characterization."
2. The next steps in the HPP Strategy are to assess the accumulated data and determine minimum data needs. Ecology's assessment of the accumulated data is that additional field investigations will be required at 100-N Area. The results of the additional field investigations, and the previously accumulated data, will have to be evaluated in a Focused Feasibility Study (studies) as shown in Figure 1 of DOE/RL-91-40. The studies will have to consider the alternative of capping the unit if necessary to protect human health and the environment.



Mr. Kevin Bazzell

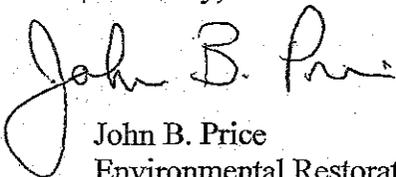
April 11, 2006

Page 2

3. The 1301-N Trench is a regulated unit as defined at Washington Administrative Code (WAC) 173-303-040. Requirements for corrective actions for releases from regulated units are found at WAC 173-303-64620. Our assessment of the backfill concurrence data is that releases have occurred (notably, hexavalent chromium), and remain, in the vadose zone at concentrations that exceed the numeric cleanup values referenced at WAC 173-303-610(2)(b)(i). Ecology notes that the completion of a Focused Feasibility Study would be compliant with WAC 173-303-64620(4)(a), which applies to corrective action for releases from regulated units.
4. The backfill of the 1301-N Trench is consistent with the requirements of:
  - The "Interim Remedial Action Record of Decision for the 100-NR-1 Operable Unit of the Hanford 100-N Area" (Treatment, Storage, and Disposal ROD), January 2003.
  - 100-N Area" (Treatment, Storage, and Disposal ROD), January 2000, and the "Explanation of Significant Difference for the 100-NR-1 Operable Unit Treatment, Storage, and Disposal Interim Action Record of Decision and 100-NR-1/100-NR-2 Operable Unit Interim Action Record of Decision," January 2003.
  - Part V of the Hanford Site-Wide Permit.
5. Requirements at WAC 173-303-645(2) – (12) for "Releases from Regulated Units" apply to the 1301-N Trench. The Dangerous Waste Permit for the Hanford Site, WA7890000897, is currently being renewed. Ecology has drafted closure/post-closure groundwater monitoring conditions for the 1301-N Trench and other solid waste management units at the 100-N Area. Those draft conditions will undergo public comment and revision as necessary. USDOE will also have the opportunity to comment.

If you have any questions, you may contact me at (509) 372-7921. Noe'l Smith-Jackson, the technical lead for the 1301-N Trench, may be contacted at (509) 372-7926. Jean Vanni, the permit writer for the 1301-N Trench, may be contacted at (509) 372-7930.

Sincerely,



John B. Price  
Environmental Restoration Project Manager  
Nuclear Waste Program

lkd

Enclosures:

1. 116-N-1 Combined Crib and Trench Backfill Concurrence Checklist
2. DOE/RL-91-40, Figure 1

cc: See next page

Mr. Kevin Bazzell

April 11, 2006

Page 3

cc/enc: Larry Gadbois, EPA  
Mike Thompson, USDOE  
Dana Ward, USDOE/HNRTC  
Kent Westover, USDOE  
Ron Morrison, FH  
Rich Carlson, WCH  
Rick Donahoe, WCH  
Scott Parnell, WCH  
Megan Proctor, WCH  
Stuart Harris, CTUIR  
Gabriel Bohnee, NPT  
Russell Jim, YN  
Todd Martin, HAB  
Ken Niles, ODOE  
Administrative Record: 100-NR-1, 116-N-1, 1301-N  
Environmental Portal

<b>Waste Site:</b> 116-N-1 Combined Crib and Trench	<b>BACKFILL CONCURRENCE CHECKLIST</b> (Concurrence to Proceed with Waste Site Backfill Operations)	<b>WIDS No.:</b> 116-N-1
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This checklist is a summary of cleanup verification results for the 116-N-1 trench. The checklist is intended as an agreement allowing the RCCC subcontractor to backfill the excavation prior to the issuance of the final cleanup verification package. The lead regulatory agency has been provided copies of detailed calculations. The results are summarized below.

Regulatory Requirement	Remedial Action Goals (RAG)	Results	RAG Attained	Ref.
Direct Exposure – Radionuclides	1. Attain 15 mrem/yr dose rate above background over 1000 years.	1. Maximum dose rate calculated by RESRAD is 3.35 mrem/yr for all pathways.	Yes	C
Direct Exposure – Nonradionuclides	1. Attain individual COC RAGs.	1. All individual COC concentrations are below the RAGs.	Yes	B
Meet Nonradionuclide Risk Requirements	1. Hazard quotient of less than 1 for noncarcinogens.	1. The hazard quotients for individual nonradionuclide COCs in the shallow zone are less than 1.	Yes	B
	2. Cumulative hazard quotient of less than 1 for noncarcinogens.	2. The cumulative hazard quotient is less than 1 for the shallow zone and less than 1 for the deep zone.		B
	3. Excess cancer risk of $<1 \times 10^{-6}$ for individual carcinogens.	3. Excess cancer risk values for individual nonradionuclide COCs are less than $1 \times 10^{-6}$ .		B
	4. Attain a total excess cancer risk of $<1 \times 10^{-5}$ for carcinogens.	4. Total excess cancer risk is less than $1 \times 10^{-6}$ for the shallow zone and less than $1 \times 10^{-6}$ for the deep zone.		B
Groundwater/River Protection – Radionuclides	1. Attain single COC groundwater & river RAGs.	1,2. With the exception of tritium, RESRAD modeling predicts that contaminants from the shallow and deep zone do not reach groundwater within 1,000 years. Tritium is predicted to reach groundwater within 1,000 years, but at concentrations below the RAG. Therefore, all groundwater and river protection RAGs have been attained.	Yes	B,C
	2. Attain National Primary Drinking Water Regulations 4-mrem/yr (beta/gamma) dose standard to target receptor/organ.			C
	3. Meet drinking water standards for alpha emitters: the more stringent of 15 pCi/L MCL or 1/25 <sup>th</sup> of the derived concentration guide for DOE Order 5400.5.			C
	4. Meet total uranium standard of 21.2 pCi/L.			C
Groundwater/River Protection – Nonradionuclides	1. Attain individual nonradionuclide groundwater and river cleanup requirements.	1. Residual concentrations of hexavalent chromium are not predicted to exceed water quality criteria based on the results of leach studies performed for other 100 Area sites.	Yes	B,C
Other Supporting Information	1. Sample location design calculation brief.			A

All citations above and references on attached sheet are on record with Washington Closure Hanford, Document and Records Management. Above noted regulatory requirements have been attained.

*S. E. Powell* 3/30/06     *D. Williams* 3/30/06     *[Signature]* 3/30/06  
 WCH Manager                      Date                      WCH Project Engineer                      Date                      DOE Project Manager                      Date

Given the attached information, DOE can proceed with backfill of the site with minimal risk. Final approval that the site has met RAOs and RAGs will occur with the submittal, review, and approval of the Cleanup Verification Package by the lead regulatory agency.

*John B. P...* 4/11/2006                      N/A                      N/A  
 Ecology Project Manager                      Date                      EPA Project Manager                      Date

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# Hanford Past Practice RI/FS (RFI/CMS) Process

The process is defined as a combination of interim cleanup actions (involving concurrent characterization), field investigations for final remedy selection where interim actions are not clearly justified, and feasibility/treatability studies.

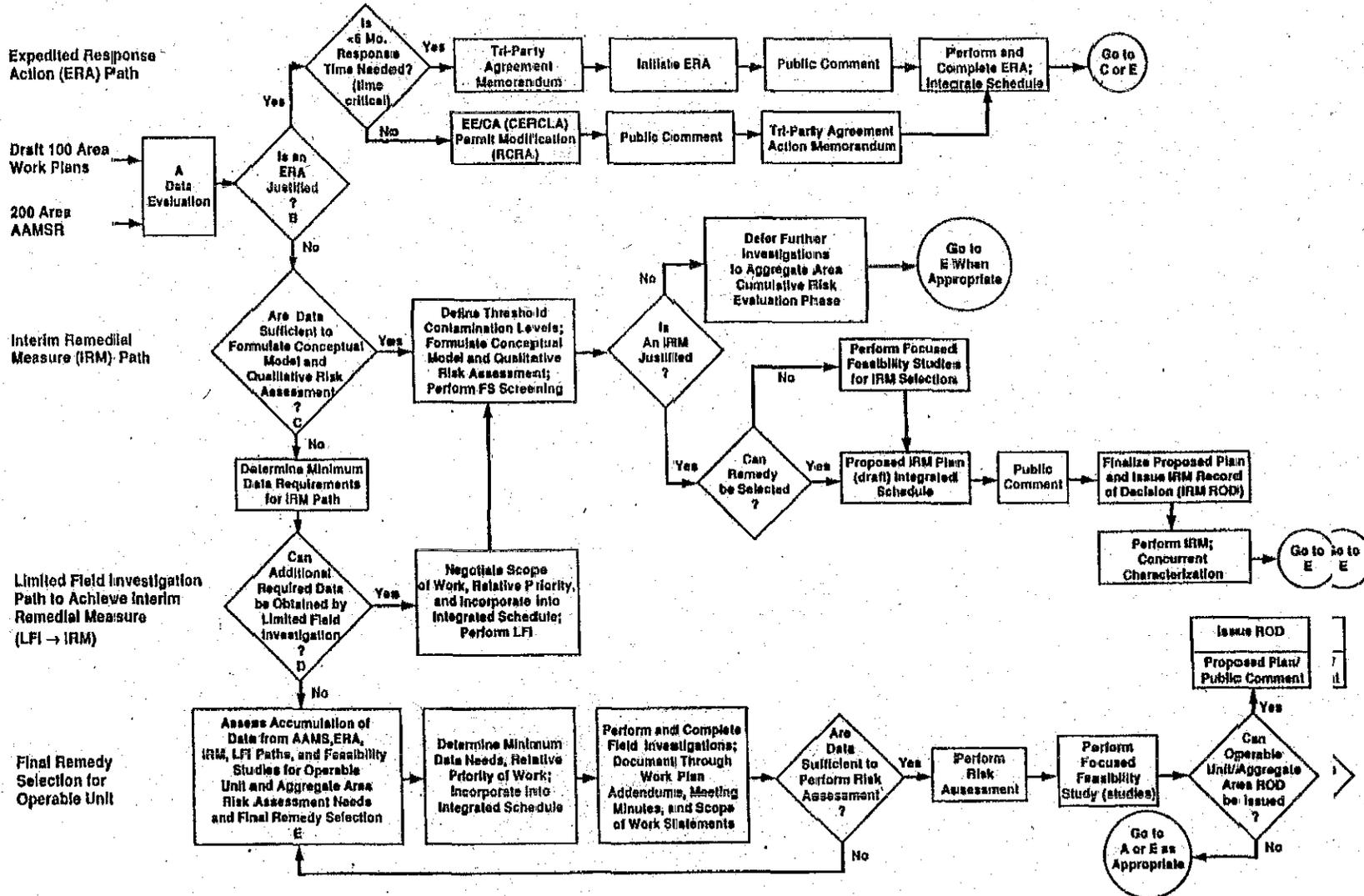


Figure 1. Hanford Past-Practice RI/FS Process.

DOE/RL-91-40, Rev. 0

11